

REMARKS

In a first Office Action dated April 16, 2004 (paper no. 4), the Examiner objected to FIG. 4 and to the specification because of informalities. The Examiner rejected claims 10-17 under 35 U.S.C. §112, first paragraph, as being a single means claim with undue breadth. The Examiner further rejected claims 1, 2, and 4 under 35 U.S.C. §102(e) as being anticipated by Abrishamkar (U.S. patent no. 6,097,716), rejected claims 1, 2, 4-7, 9, and 14-16 under 35 U.S.C. §102(e) as being anticipated by Nitta (U.S. patent no. 6,400,731), and rejected claims 3, 9, and 17 under 35 U.S.C. §103(a) under 35 U.S.C. §102(e) as being unpatentable over Nitta in view of Crozier et al. (U.S. patent no. 6,530,059, hereinafter referred to as "Crozier"). The rejections and objections are traversed and reconsideration is hereby respectfully requested.

The applicants have amended FIG. 4 and the specification to correct the informalities noted by the Examiner. In a replacement sheet attached to this amendment, the received sequence of FIG. 4 has been changed to 01100001001001 as suggested by the Examiner. Accordingly the applicants respectfully request that the Examiner withdraw the objections to FIG. 4 and the specification.

The Examiner rejected claims 10-17 under 35 U.S.C. §112, first paragraph, as being a single means claim with undue breadth. Claims 10 and 14 have each been amended to include multiple means features. Since claims 11-13 depend upon claim 10 and claims 15-17 depend upon claim 14, the applicants respectfully request that the Examiner withdraw the rejections of claims 10-17 under 35 U.S.C. §112, first paragraph.

The Examiner rejected claims 1, 2, and 4 under 35 U.S.C. §102(e) as being anticipated by Abrishamkar (FIG. 1; col. 1, line 12 to col. 2, line 54) and further rejected claims 1, 2, 4-7, 9, and 14-16 under 35 U.S.C. §102(e) as being anticipated by Nitta (FIG. 1; col. 1, lines 16-20; col. 2, lines 1-30; col. 5, lines 15-21). The applicants respectfully disagree with the contention that these claims are anticipated by either Abrishamkar or Nitta.

Claims 1 and 10 teach setting or determining an initial state of a convolutional encoder based on a data rate. Claims 5 and 14 teach setting an initial state of a Trellis

diagram based on a data or transmission rate and utilizing the Trellis diagram to decode received data. Abrishamkar teaches nothing concerning setting or determining an initial state of a convolutional encoder or setting an initial state of a Trellis diagram used to decode data other than a general reference to the IS-95 standard. In contrast to claims 1, 5, 10, and 14, the IS-95 standard specifies that a convolutional encoder (and, correspondingly, decoder) is initially set to the zero state.

Nitta, too, teaches nothing concerning setting or determining an initial state of a convolutional encoder or setting an initial state of a Trellis diagram used to decode data. In citing Nitta, the Examiner stated that since each of the multiple convolutional encoders and Viterbi decoders in FIG. 1 of Nitta corresponds to a different data rate, it is inherent that each encoder/decoder has an initial state based on the data rate. The applicants respectfully disagree. Again, the IS-95 standard specifically teaches that each such encoder (and correspondingly, each such decoder) is initially set to the zero state. Nitta teaches nothing that indicates otherwise.

The Examiner contended that Crozier teaches that a single encoder or decoder can start in any state, and that the choice of any particular starting state for each of the multiple encoders of Nitta is merely a design choice as a use of different starting states does not affect the functionality of the system. The applicants respectfully disagree. None of Abrishamkar, Nitta, or Crozier teaches a use of a different starting state for each of multiple encoders or decoders, and once again, compliance with the IS-95 standard would result in a same starting state, that is, a starting zero state, for each encoder/decoder. Furthermore, nowhere does Crozier teach that the initial state is based on a data or transmission rate. The selection of an initial state is not merely design choice that does not affect the functionality of the system. To the contrary and as noted in the pending application, an initial state selected as taught by the applicants' claims improves system performance.

Therefore, none of Abrishamkar, Nitta, or Crozier, individually or in combination, teaches the features of claims 1 and 10 of setting or determining an initial state of a convolutional encoder based on a received data rate. Furthermore, none of Abrishamkar, Nitta, or Crozier, individually or in combination, teach the features of claims 5 and 14 of

setting an initial state of a Trellis diagram based on a data or transmission rate and utilizing the Trellis diagram to decode received data. Accordingly, the applicants respectfully request that claims 1, 5, 10, and 14 may now be passed to allowance.

Since claims 2-4 depend upon allowable claim 1, claims 6-9 depend upon allowable claim 5, claims 11-13 depend upon allowable claim 10, and claims 15-17 depend upon allowable claim 14, the applicants respectfully request that claims 2-4, 6-9, 11-13, and 15-17 may now be passed to allowance.

As the applicants have overcome all substantive rejections and objections given by the Examiner and has complied with all requests properly presented by the Examiner, the applicants contend that this Amendment, with the above discussion, overcomes the Examiner's objections to and rejections of the pending claims. Therefore, the applicants respectfully solicit allowance of the application. If the Examiner is of the opinion that any issues regarding the status of the claims remain after this response, the Examiner is invited to contact the undersigned representative to expedite resolution of the matter.

Respectfully submitted,
William Morgan et al.

By: 

Steven A. May
Attorney for Applicants
Registration No. 44,912
Phone No.: 847/576-3635
Fax No.: 847/576-3750